

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LEONHARD REINDL, FOLKHARD MULLER, CLEMENS RUPPEL,
WOLF-ECKHART BULST, and FRANZ SEIFERT

Appeal No. 1997-2008
Application No. 08/270,931

ON BRIEF

Before HAIRSTON, BARRETT, and GROSS, Administrative Patent Judges.

GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 43, which are all of the claims pending in this application.

Appellants' invention relates to a sensor having both a passive sensor element and a passive reference element, each

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with a surface wave structure. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. In a system including an interrogation device having a transmitting part supplying interrogation signals, a receiving part and an evaluation part,

a passive apparatus to be interrogated by radio and used as a measuring sensor, comprising:

a first passive surface wave structure defining a sensor element supplying sensor output signals upon receiving interrogation signals from the transmitting part of the interrogation device;

a second passive surface wave structure defining a reference element supplying reference output signals upon receiving the interrogation signals from the transmitting part of the interrogation device;

the interrogation device interrogating a measured value being formed from a comparison of the output sensor signals of said sensor element and the reference output signals of said reference element resulting from the interrogation signals; and

said sensor element and said reference element having different sensitivities to a variable to be measured.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Schwartz 1975	3,888,115	June 10,
Skeie 1986	4,620,191	Oct. 28,
Nysen et al. (Nysen I) 1988	4,725,841	Feb. 16,

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Nysen et al. (Nysen II) 4,734,698 Mar. 29,
1988

Claims 1 through 43 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nysen I, Nysen II, or Skeie in view of Schwartz.

Reference is made to the Examiner's Answer (Paper No. 11, mailed September 19, 1996) for the examiner's complete reasoning in support of the rejections, and to appellants' Brief (Paper No. 9, filed August 22, 1996) for appellants' arguments thereagainst.

OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellants and the examiner. As a consequence of our review, we will reverse the obviousness rejection of claims 1 through 43.

Claim 1 recites a system including "a passive apparatus to be interrogated by radio and used as a measuring sensor," which includes two passive surface wave structures defining a sensor element and a reference element. Skeie, Nysen I, and Nysen II each discloses a passive interrogator label system.

The system includes an interrogation device and a transponder formed of a passive surface acoustic wave device. None of them include reference elements. Schwartz, on the other hand, describes a sensor with a sensor element and a reference element, but each element requires a power source and, therefore, is an active device.

The examiner asserts (Answer, page 5) that "Schwartz suggests (col. 1, lines 22-31) that such a built-in reference surface wave structure improves the sensitivity, resolution and stability of the sensor while providing independence from temperature and positional effects." The examiner concludes (Answer, page 5) that "it would have been obvious ... to have modified the surface wave sensor of Nysen or Skeie to a sensor having a first surface wave structure acting as a sensor element and a second surface wave structure acting as a reference element, as suggested by Schwartz."

We first note that the examiner refers to the structures of Nysen I, Nysen II, and Skeie as sensors, whereas each reference discloses a passive interrogator label system, as explained above. Merely that the references disclose similar structures, namely surface acoustic wave structures, does not

mean that they function in the same manner. Nowhere in any of the three references does any external parameter act on the transponder, nor is there even any allusion to a sensor.

Since Nysen I, Nysen II, and Skeie do not sense any external parameters, we find no reason why the skilled artisan would replace each of their transponders with a sensor element and a reference element.

In addition, Schwartz teaches (column 1, lines 25-28) that the built in reference element provides independence from temperature and positional effects. The high sensitivity and resolution mentioned in column 1, lines 28-30, result from the use of semiconductors (see column 1, lines 11-15), not from the use of a reference element. As to the high stability referenced in column 1, lines 29-30, Schwartz does not make clear what part of the invention is responsible for such higher stability. Thus, as the examiner's summary of Schwartz's teachings is erroneous, the rationale for combining the references is groundless. Consequently, we cannot sustain the rejection of claim 1, or any of its dependents, claims 2 through 43.

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Furthermore, Nysen II compensates for temperature variations without including a reference element. Therefore, Nysen II eliminates the need for providing independence from temperature, Schwartz's reason for using a reference element. Accordingly, if anything, Nysen II teaches away from the combination with Schwartz, thereby providing a further reason for a reversal of the obviousness rejection of claims 1 through 43 over Nysen II and Schwartz.

CONCLUSION

The decision of the examiner rejecting claims 1 through 43 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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